SAFE Obstetric Course
Freetown, Sierra Leone
April 2016

Report: Dr Tom Daubeny and Dr Aoife Fitzgerald
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Course Organisers: Dr Liz Shewry, Dr Michael Koroma and Dr Keith Thomson
Background

SAFE Course

Safer Anaesthesia From Education is a global training initiative launched by the Association of Anaesthetists of Great Britain and Ireland (AAGBI) and the World Federation of Societies of Anaesthesiologists. The aim is to provide training to anaesthetic providers worldwide to enable them to deliver ‘vigilant and competent’ anaesthesia. Two courses have been developed, a 3-day paediatric course and a 3-day obstetric course. The courses will frequently involve an additional day to provide Training of Trainers, to enhance dissemination.

Sierra Leone

Sierra Leone is situated on the coast of West Africa. It has a population of over 6 million. It was the epicenter of the recent Ebola epidemic, which began in 2014. The maternal mortality rate is estimated to be one of the worst in the world: 1,360 deaths/100,000 live births\(^1\). Physician density is 0.02 physicians/1,000 population (2008), with only 30 students graduating from medical school annually\(^2\). There are only two physician anaesthetists in the country, and therefore anaesthetic care is delivered by nurse anaesthetists or anaesthetic technicians, who have undergone an 18 month training programme.

SAFE in Sierra Leone

This was the first SAFE course in Sierra Leone. 12 delegates who participated in this course had attended a previous Anaesthetic Conference. Planning for this SAFE course began in 2015, following the WACS meeting in Abidjan. Dr Keith Thomson and Dr Elizabeth Shewry worked with Dr Michael Koroma in Sierra Leone to organise the course.

We are very grateful to the AAGBI and Mrs Jean Thomson for providing funding for this SAFE course.
SAFE Obstetric Course Freetown 2016

<table>
<thead>
<tr>
<th>Sat 16 Apr</th>
<th>Sun 17 Apr</th>
<th>Mon 18 Apr</th>
<th>Tue 19 Apr</th>
<th>Wed 20 Apr</th>
<th>Thu 21 Apr</th>
<th>Fri 22 Apr</th>
<th>Sat 23 Apr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrive Freetown</td>
<td>Preparation</td>
<td>Hospital visits: PMCH and Aberdeen Clinic</td>
<td>SAFE Obstetric Course</td>
<td>SAFE Obstetric Course</td>
<td>SAFE Obstetric Course Hospital visit: Connaught</td>
<td>Rest</td>
<td>Depart Freetown</td>
</tr>
</tbody>
</table>

Faculty

Local

Dr Michael Koroma, Consultant Anaesthetist, Freetown

Dr Ruth Tighe, Kings Sierra Leone Partnership Anaesthetist, Connaught Hospital, Freetown

Visiting

Dr Keith Thomson, Retired Consultant Anaesthetist, Basingstoke

Dr Elizabeth Shewry, Consultant Anaesthetist, Southampton

Dr Gary Dickson, Consultant Anaesthetist, Winchester

Dr Angus Sutherland, Anaesthetic Trainee, Portsmouth

Dr Chirag Patel, Consultant Anaesthetist, Lewisham & Greenwich

Dr Gill Van Hasselt, Consultant Anaesthetist, Poole

Dr George Mathew, Consultant Anaesthetist, Lewisham

Dr Tom Daubeney, Anaesthetic Trainee, Basingstoke

Dr Aoife Fitzgerald, Anaesthetic Trainee, Reading

Mr James Thomas, Consultant Obstetrician + Gynaecologist, Chertsey

Ms Louise Emmett, Midwife, Chertsey

Ms Nadia Pridmore, Midwife, Chertsey

Ms Heather Cluness, Midwife, Chertsey
Anaesthetic Faculty:

Obstetric Faculty:
Course Venue: Princess Christian Maternity Hospital, Freetown

2 large rooms were provided. Lectures were held in the Anaesthetic Department, and Breakout Sessions were divided between the two rooms. Air conditioning was functional in one of the rooms, which was very welcome! It took one hour by car in the vibrant Freetown traffic to travel from the faculty’s hotel to the venue. The delegates were provided with cold drinks, biscuits and a hot lunch each day.

Programme

The SAFE Obstetric Course consists of lectures and small group ‘Breakout Stations’. The Breakout Sessions were a mix of practical skills, group discussions and scenarios. Each day ended with Keith’s Quiz, which assessed knowledge covered that day. Prizes were awarded to the delegate who was ‘left standing’, having correctly answered the most questions. This proved very popular with the delegates. The themes covered each day are summarized below. A parallel two-day course for midwives was run by the midwifery and obstetric visiting team.

<table>
<thead>
<tr>
<th>Tue 19 April</th>
<th>Wed 20 April</th>
<th>Thur 21 April</th>
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</thead>
<tbody>
<tr>
<td>Pre Course Assessments</td>
<td>Spinal Anaesthesia 1</td>
<td>Pre-eclampsia and Eclampsia</td>
</tr>
<tr>
<td>Airway</td>
<td>Spinal Anaesthesia 2</td>
<td>Haemorrhage</td>
</tr>
<tr>
<td>Advanced Airway</td>
<td>Critical Care and Resuscitation 1</td>
<td>Obstetric Emergencies/Conditions</td>
</tr>
<tr>
<td>General Anaesthesia</td>
<td>Critical Care and Resuscitation 2</td>
<td>Post-course Assessments</td>
</tr>
<tr>
<td>Keith’s Quiz</td>
<td>Keith’s Quiz</td>
<td>Keith’s Quiz</td>
</tr>
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Maternal Trauma breakout station
Delegates

<table>
<thead>
<tr>
<th>Job</th>
<th>Number</th>
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</thead>
<tbody>
<tr>
<td>Anaesthetic Technician</td>
<td>5</td>
</tr>
<tr>
<td>Community Health Officer (CHO) Anaesthetist</td>
<td>2</td>
</tr>
<tr>
<td>Nurse Anaesthetist</td>
<td>16</td>
</tr>
<tr>
<td>Student Anaesthetist</td>
<td>14</td>
</tr>
<tr>
<td>Midwife</td>
<td>2</td>
</tr>
<tr>
<td>Student Midwife</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>49</strong></td>
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</tbody>
</table>

There were 49 delegates from 16 hospitals. Only 19 delegates were available to attend all three days of the course, but the majority attended at least two days (36). Only delegates who attended all three days were awarded a certificate. All delegates were given a copy of *SAFE Anaesthesia: A Training Manual Where Facilities Are Limited* by Lucille Bartholomeusz.

Hospitals

- 32 military hospital
- Aberdeen Women’s Centre (NGO)
- Bo Government Hospital
- Connaught Hospital
- Emergency Hospital
- Kabala Government Hospital
- Kambia Government Hospital
- Kenema Government Hospital
- Lungi Government Hospital
- Makeni Government Hospital

Monitoring and Evaluation
Monitoring and Evaluation was performed as follows:

Level 1: Reaction and enjoyment – measured by numerical analogue scores: See graphs below
Level 2: Change in knowledge – assessed by pre and post course MCQ tests
Level 3: Change in skill ability – assessed by before and after course skills tests

The 18 delegates completed both the pre and post course MCQ tests. The average pre-course score was 69.4% (range 56 - 84%) and the average post-course score was 77.1% (range 60 - 92%). The average change in MCQ score was + 7.7% (range -10% - + 16%), but two delegates had a drop in MCQ score. Delegates scored higher in the maternal resuscitation skills assessment than the neonatal resuscitation skills assessment. The average pre-course maternal resus score was 5.3/10, which increased to 7.2/10 in the post course assessment. The average pre-course neonatal resus score was 3.4/10, which increased to 6.6/10.

The skills learnt on the course were felt to be very valuable by the delegates. This was highlighted by delegate comments though the course and by the following correspondence after the course:

“The week after you left, one of the senior nurse anaesthetists resuscitated a 'still-born' in Aberdeen Woman Centre with what she learnt on the course. Even though she's seen cases like that many times, she said she wouldn't have done anything before but decided to try resuscitation because it was fresh in her mind. She was beaming from ear to ear”

The delegates were engaged and enthusiastic, and this is reflected in their feedback:

This team is very useful and extremely wonderful. Your teachings were crystal and profitable. Please come again. There is no machine in my hospital, we need pulse oximeter and other anaesthetic support.
A refresher course should be done twice a year
The whole course was extremely fantastic and absolutely useful in my practice.
I have learnt a lot in this course but I want it to be for everybody next time so that our other anaesthetists and midwives will also gain from it.
To show some video about ruptured uterus in the next session and improve on the presentation, because our patients are different from UK.
To be having this lecture every six months or yearly. To give us anaesthetists a chance to goa and study in the uk.
Please increase the time of the course/ training. We hope to see you more often to impart more knowledge in us.
Please we need more learning sessions and we hope and wont you come always and extend the days of coming and get the time of the sessions reduced.
Hope you shall continue with this level of lectures and help our hospital with equipment lack.
Well done, please continue.
Hope you will continue coming with more frequent updates to refresh our minds and learning new things that we might have forgotten or may not be practicing.
The training should be moved to any of the provinces. The anaesthetist should come by back in groups at a time so that others will remain to continue the work.
This type of training should be done at least every year. The time should be extended for more practical work.

Most of our hospitals are not well equipped especially those in the interior (districts).
I hope that you will continue coming for this course to refresh our team. Thanks so much to you all.

The course was excellent.
I really appreciate the course, but some of our hospitals does not have good material to work with.
This course must be done annually including other areas of anaesthesia e.g. general surgery, paediatric anaesthesia etc. The period of learning is too long for one meal.
I have suggested the safe obstetric anaesthesia should be continuous every year and with the support of the anaesthesia association in S/L.

I wish your team could continue conducting this lecture twice a year.
It should happen at least after a year or two to keep us in line with the best practice.
I suggest that this refresher training should be conduct regularly.

Suggestion to you please wont you continue with this training every year for we the anaesthetists in S/L.

I just love the way the sessions were conducted. May God bless you all.
The course is enjoyable. I suggest that the government provide supervisors to arrange and assess the anaesthetist equipment.

I suggest that next time more lecture time and questions and answers time to be given.
The course is very educative and a very good capacity for building methods. I hope this will continue for a long time.
Let subsequent courses be held in the provinces i.e. either Bo, Kenema or Makeni
I really enjoyed the course satisfactory and I want it to be annually for us to be versatile and save life more urgently.

I hope that all what I've learnt about especially the drugs may be of an easy access to my unit. Hope the Dr Anaesthetists will be making a quarterly visit to our district hospitals.
I want such training to be done regularly.
I thank the team so much for the good work done.
Delegates' Overall Assessment of Course
(scores out of 10)

- Was the course enjoyable
- Did it improve your knowledge
- Do you think it will improve your clinical ability
- Was it relevant to your day to day work
- Do you think what you have learned will improve the care you give your patients
- Would it be useful to run a course in your hospital
Average Score (out of 10)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Average Score</th>
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<tbody>
<tr>
<td>Lecture on Airway and General Anaesthesia</td>
<td>9.8</td>
</tr>
<tr>
<td>Airway Anaesthesia Breakout Sessions</td>
<td>9.6</td>
</tr>
<tr>
<td>General Anaesthesia Breakout Sessions</td>
<td>9.4</td>
</tr>
<tr>
<td>Spinal Anaesthesia Breakout Sessions</td>
<td>9.2</td>
</tr>
<tr>
<td>Lecture on Critical Care and Resuscitation</td>
<td>9</td>
</tr>
<tr>
<td>Lecture on Obstetric emergencies session</td>
<td>8.8</td>
</tr>
<tr>
<td>Lecture on Maternal Trauma</td>
<td>8.6</td>
</tr>
<tr>
<td>Lecture on pre-eclampsia and eclampsia</td>
<td>8.4</td>
</tr>
<tr>
<td>Lecture on Maternal Sepsis and eclampsia</td>
<td>7</td>
</tr>
<tr>
<td>Lecture on Obstetric emergencies session</td>
<td>6.9</td>
</tr>
<tr>
<td>Lecture on Obstetric emergencies session</td>
<td>6.8</td>
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</tbody>
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Average MCQ scores (%)

- Pre-course MCQ: 69.4%
- Post-Course MCQ: 77.1%
Course delegates with Dr Koroma (centre, front row)
Challenges and Reflection

The faculty and delegates were very satisfied with the course. However, there were several challenges encountered and which the delegates raised. These are potential barriers to delivery of the training and implementation of what has been learned which would be worthwhile reflecting upon for future courses:

- **Communication.** Preparation in advance of arrival to advertise the course and arrange service cover for delegates requires reliable contacts and in-country communication. Some anaesthetists who could have benefitted will undoubtedly have missed the opportunity due to communication difficulties in advertising the course.

- **Access.** Anaesthetists in remote areas, where transport may be lengthy and expensive and find it more difficult to attend.

- **Service provision.** In areas with limited anaesthetic provision, it is not possible to release staff. One delegate took time out during the course to do a case and returned to the course directly after.

- **Cost.** Although the course, materials and refreshments are free to attendees; the transport, accommodation and opportunity cost may be prohibitive. We learned that there is an expectation of a ‘per diem’ for attending courses. We also heard that when staff have a day off from their government jobs, they frequently will be working in the private sector to supplement their income.

- **Anaesthetic Resources.** Some anaesthetists are working with very limited resources. For example, one delegate described how all of the anaesthetic machines were removed from her government hospital and placed in a new private hospital, leaving the anaesthetist to practice GA with a syringe of ketamine. The health system is under strain, with accounts of shortages of drugs. Medical waste is not disposed of safely, as we witnessed when we went to the beach and found syringes and needles washed up on the shore!

- **Training of Trainers.** We did not run a Training of Trainers course on this occasion, due to logistical and capacity constraints. We hope to run this course on the next occasion.

References

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